a) According to Larson (1988, 1990) and subsequently Chomsky (1993, 1995) the VP projection should be considered as a VP-shell of the following form:

```
(V)  
     /\      
vP   v'     
   /\        
DP   v      
   /\       
  v'   VP    
   /\       
DP_v   V'    
   /\     
DP_IO  V    
   /\   
   V   DP_DO
```

This pattern nicely fits German clause structure if we just assume that there is a head final IP above the VPs. In this case V moves first to light v and – probably because V has strong features in German – further to the I-head (V-to-I movement). This gives us the typical word order of embedded clauses:

```
(VI)  [IP [v' Subj [v t [VP IO [v' t DO]]]] [V Verb+I]]
```

= first proposal

Although, there actually are many linguists who assume such a structure, there are as many arguments against it. In this section I’m mainly concerned with complex VPs in the sense of auxiliary-constructions.

b) The order of the German modal-auxiliaries-main verb complex is (at least in finite clauses) exactly the mirror image of the English order:

1) … daß er es gegessen haben könnte.  
   … that he it eaten have may.   
   … that he may have eaten it.

2) … daß er betrunken war.   
   … that he drunken was.   
   … that he was drunken.

3) … daß er betrunken gewesen ist.   
   … that he drunken been has.   
   … that he has been drunken.

4) … daß er kommen wird.   
   … that he come will.   
   … that he will come.
5) ... daß er es ihm gegeben haben könnte.
... that he it him given have could.
... that he could have given it to him.

This pattern is striking. Because we know that a modal or an inflection selects a bare infinitival verbal form (either a auxiliary or a main verb), we know that an auxiliary (“haben”, “sein” or “werden”) selects a past participle (called “Partizip II”) and so on, and because selection means ‘choosing’ a complement and thus determining a hierarchical order, the V-projections are at the first glance head final in German.

b) Leaving aside arguments and Spec-positions and supposing a head-final IP we have the following structure:

example: ... daß die Frau geküßt worden sein wird.
... that the woman kissed been have will.
... that the woman will have been kissed.

(VII) = second proposal

To begin with, proposal (VII) looks fine – apart from including a strong thesis against the argument for being general head-initial structures (cf. Kayne’s LCA). I think that there could be at least two possibilities for arguing against this analysis; both have to have some V-movement.

c) The easiest thing to do would probably be to postulate some functional heads above VP which have exactly the reverse order of the supposed (English-like) head-initial order and try to find some arguments for why all Vs have to move to these heads (strong features or whatever). The structure according to this hypothesis would look like (III) with FP as an abbreviation of some functional Projection:

(VIII) = third proposal

Within VP you have the typical right branching head initial structure. But, with the depicted order of the V-related functional categories above VP and the assumption of obligatory
movement to these heads, the resulting word order pattern would be the reverse, and this is as
they actually are. I’ve never seen an argument in favour for such an analysis and I think that it
runs into a couple of difficulties. I’ll only mention some of them:

i) It is difficult to prove such a structure empirically, because the finite verb or a
corresponding modal are (almost, cf. below) always at the end of the clause and thus, there is
nothing behind it which could be analysed as an intervening constituent that uncovers such a
head-V-movement.

(IX) … [FP verbal head [IP … [VP trace], [VP trace]]] …

ii) It seems that all FPs (including IP!) would have to be V-projections, because VP related
adverbs like adverbs of manner (well, bad, lazy …) f. i. are always in front of the Vs and
never after them and never somewhere in between. (And in general, any material which could
be thought of being within VP stays before the V-complex.) Example:

... daß die Frau nur zaudernd (only hesitately) / nicht (not) geküßt worden sein wird.
*... daß die Frau geküßt worden sein wird nur zaudernd / nicht.

iii) In addition to that, all arguments of the main verb and all adjuncts had also to move,
because they always come in front of the Vs, never after them. If all the V-heads move out of
VP then all arguments of them have to move in front of them so that you get the typical DP-
DP-DP-VP order. (You’ll have lots and lots of – not yet well-motivated – movements.)

d) There is another possibility which is less ambitious. One could argue that though IP is
head-final there are functional projections within VP where the verb-heads move to in order to
get their surface positions. This proposal looks somehow like (X):

(X) [IP [VP [FP pass-part …] [FP pass-part …] [VP bare-inf …] [VP pass-part …] [VP pass-part …]]] I]

= fourth proposal

Here, only the selected past and passive participles had to move, the bare infinitive could
instead move to I (out of VP), if there is no modal in that position. But it is for now
immaterial whether it moves or not.

With this proposal at hand, the point ii) is accounted for, but nevertheless arguments like i)
and iii) could be made again. To show this for ii) just consider:

*... daß die Frau geküßt worden sein nur zaudernd / nicht wird.

e) I’m not going to argue for one of the proposals in detail but want point out two oddities,
which arises for all four proposals. The first has to do with infinitival embedded clauses. Here,
the German equivalent to to which supposedly fills out the Infl-position in English stays in
front of the infinitive:

Sie versucht, geküßt worden zu sein.
She tries kissed been to have.
(She tries to have been kissed.)
This seems to be in favour for the second movement proposal (VIII) where we have FP-FP-I-VP, i.e. the structure depicted here. Against this, I would argue that instead of having a verbal position after Inf, the complex expression ‘zu sein’ is lexically generated and not syntactically derived proper, so that it can sit together with the bare infinitival in the I-projection. In order to show this I want to point to lexically composed infinitivals, i.e. to verbs that have a prefix like ‘zu’, ‘ab’, ‘auf’ and so on. Here the infinitival marker ‘to’ stays between the prefix and the verb.

Compare:

(i) Sie versucht, es abgeschrieben zu haben.
   She tries it copied to have.
   She tries to ...

(ii) Sie versucht, es abzuschreiben.
    She tries it to copy.
    She tries to copy it.

My claim is that ‘zu haben’ (to have) are not two components but one, which has the same position as ‘abzuschreiben’ in the second example.

f) The second problem, which is more intricate, arises with CP-complement taking verbs, because these complements (and only these) always follow their V-head! To show this for an embedded clause, we need a double embedded one:

(i) ... daß die Frau geglaubt haben wird, daß jemand sie küßte.
    ... that the woman believed have will that somebody her kissed.
    (... that the woman will have believed that somebody kissed her.)

Although the following is also possible:

(ii) ... daß die Frau, daß jemand sie küßte, geglaubt haben wird.

it is clearly derived by a topicalization movement. If the VP-is-head-final-claim would be correct, we would either have (ii) as the underived order as one can convince oneself looking at the following counterpart of (VII):

(XI)

![Diagram](attachment:image.png)
g) This feature (that a CP-complement stays after all VPs) has some consequences for the fourth proposal, which I repeat here:

\[(X) \quad [\text{IP} [\text{VP} [\text{FP}\text{-pass-part} \ldots [\text{FP}\text{-pass-part} \ldots [\text{VP}\text{-bare-inf} \ldots [\text{VP}\text{-past-part} \ldots [\text{VP}\text{-pass-part} \ldots ]]]]]]] \text{I}]\]

If we stick to this structure, we would have to assume that the finite main verb doesn’t move to the I-head, because in this case it would come after the V-complement. This alone would not be too bad, if we assume too that the first position isn’t quite a \text{VP\text{-bare-inf}} but a position where a base-generated finite verb could sit, so that it features can be checked by the I-head without movement (if it had weak features). But what about modals, which are not VP- but IP-heads? This clearly contradicts the following data:

(i) \quad \ldots \text{daß die Frau glauben soll, daß jemand sie küßte.}  
\quad \ldots \text{that the woman believe should that somebody her kissed.}  
\quad (...) \text{that the woman should believe that somebody kissed her.}

(ii) \quad *\ldots \text{daß die Frau glauben, daß jemand sie küßte, soll.}  
\quad \ldots \text{that the woman believe that somebody her kissed should.}  
\quad (...) \text{that the woman should believe that somebody kissed her.}

h) I’ll end my paper with the concession that the German VP-system may fit after all the unpleasant third (VIII) proposal as opposed to the assumptions in the second (VII) or the fourth (X) or, of course, the otherwise very nice first (VI) proposal. The consequences which we’d face with that conjecture seem to be the following:

(i) \quad \text{We have to postulate lots of movements. Not only V-head movement, but Aux-head movement and movement of all VP-related adverbials and movement of most complements, i.e. all DP- but no CP-complements. Moreover all PP-adjuncts, which are supposed to appear in VP-adjunctions, had also to move out of original VP.}

(ii) \quad \text{This structure is, as mentioned above, difficult to test empirically. The main reason for assuming this structure comes from CP-complements, which always follow the verb. It is not an unreasonable feature of German clause structure that only CP-complements follow the verb because they don’t have case and thus may remain in situ in difference to the other DPs. (But, what about PPs, which are supposed to check their case internal to PP?)}

(iii) \quad \text{It’s pretty ugly and ad hoc.}